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Technical Report

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MECHANIZATION STUDY OF THE TECHNICAL LIBRARY, U. S. ARMY MAP SERVICE, WASHINGTON, D. C.

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ABSTRACT

The Army Map Service (AMS) Library uses a Univac 1004 computer to produce map accessions lists and bibliographies from punched cards containing printed text. Also, data on a Map Reproduction (Repromat) File are punched onto cards and transferred to magnetic tape on a Honeywell H-800 computer. This tape is used to produce a high-speed printout of the Repromat Tabulation semiannually and a monthly listing to update the semiannual tabulation. It is felt that the mechanized Repromat File system should be modified in a number of ways for greater efficiency.

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I. SUMMARY

Mechanization of the Army Map Service (AMS) Library began in 1945. The original semiautomated system consisted of a card punch, a sorter, and a tabulator and employed 90-column punched cards. At present, these punched cards, containing printed text, make up several of the Library's card files and are used manually for reference purposes. These cards are also used to produce accessions lists and bibliographies, utilizing a Univac 1004 computer.

In 1963, data on the Map Reproduction File (Repromat File) were punched onto 80-column cards and transferred to magnetic tape on the Honeywell H-800 computer system. This tape is used to produce a high-speed printout of the Repromat Tabulation semiannually and a monthly listing to update the semiannual tabulation.

The Repromat File consists of more than 120,000 map sets. There is one set of repromat per map sheet; each set averages 10 pieces of photographic film. The films that make up the Repromat File depict mapping features and are used primarily to make lithographic press plates for the production of maps. The map collection contains some two million maps with an annual increase of approximately

21,000. The Library's book collection consists of approximately 75,000 books with an annual growth of 9,000 volumes. The collection is cataloged by using the Library of Congress classification scheme and a modified 3 x 5 card format. Periodical subscriptions number 1,500 with no noticeable increase, since cancelled subscriptions usually equal the number of new titles added per year. The Document Library collection, although new, numbers 25,000 to 30,000 items with an expected annual growth of 22,000.

II. MECHANIZATION

1. CHRONOLOGY

In 1945, AMS completed the conversion of all maps to a 90-column punched card catalog system.

In 1959, periodical titles were transferred to punched cards which were used to mechanically produce a current list of periodicals received at AMS.

In 1963, a Command Improvement Plan recommended the study of automatic data processing applications to library-type operations, beginning with the Repromat File. A target date of 1964 was established for implementation of recommendations resulting from this study. The Department of Computer Services feasibility study was completed in August, and conversion of the Repromat File to magnetic tape was begun. The system began operation in the fall.

In 1965, AMS began punching onto cards data on books and reports for a Master Authority File.

2. DESCRIPTION OF MAPS PROCESSES

(1) Input Procedures

1. One to ten copies of maps are received; one copy goes to the Reproduction Unit for inclusion in the Repromat File; outside distribution is made (if required), and the Cataloging Section receives up to five copies.

2. Maps are separated by area and placed in catalogers' bins. (Three geographical areas are involved.)

3. Catalogers pick up, check for duplicates, authorities, etc.

4. Data sheets are completed (see Appendix B) and are sent to the Accessioning Unit.

5. Accessioning Unit adds accession number to worksheets and maps and forwards worksheets to Computer Services. (Maps are forwarded to the files.)

6. Cards are keypunched and interpreted in Computer Services and are returned to the Records Unit.

(2) Outputs

Punched Cards

Punched cards and worksheets are returned from Computer Services and proofread. Cards are filed in one or more of the following files: Area; City Plan Area; Authority; Special Service Negative, Army Map Depository (copy of cards on maps going to Depository); Change of Call Number; Scale; City Plan; and Map Series.

Punched cards are prepared in various colors to indicate the type of card and the file for which each card is intended. The cards are punched, using an alphanumeric code. The plain text translation of the punch code is simultaneously printed on the cards. This is done to allow the cards to be used for manual searches. Designations are preprinted on the cards to show the kind of information that must be entered into each field. Reference to code lists is necessary to interpret most of the information, but frequent users of the files soon become familiar with the codes for areas, subjects, and authorities of most interest to them.

There are two types of cards used: A and B (see Appendix B for samples.) A type A card is made for every copy of each sheet in the collection. The type B card gives only the data common to all sheets of one call number. The call number consists of the geographic area, type of map, primary subject classification, producing authority, and scale, in that exact order. For example, a topographic map of France, produced by the AMS at a scale of 1:500, 000, would have the call number 006M0130009000000500000. In this number, 6M represents France, 01 indicates a general map, 3000 is the classification number for topographic information, 90000 is the code number for AMS, and 000500000 represents the scale of 1:500, 000.

Accessions Lists

Every two weeks an accessions list is prepared from the punched cards for new maps. This is distributed to AMS personnel and outside agencies on the distribution list.

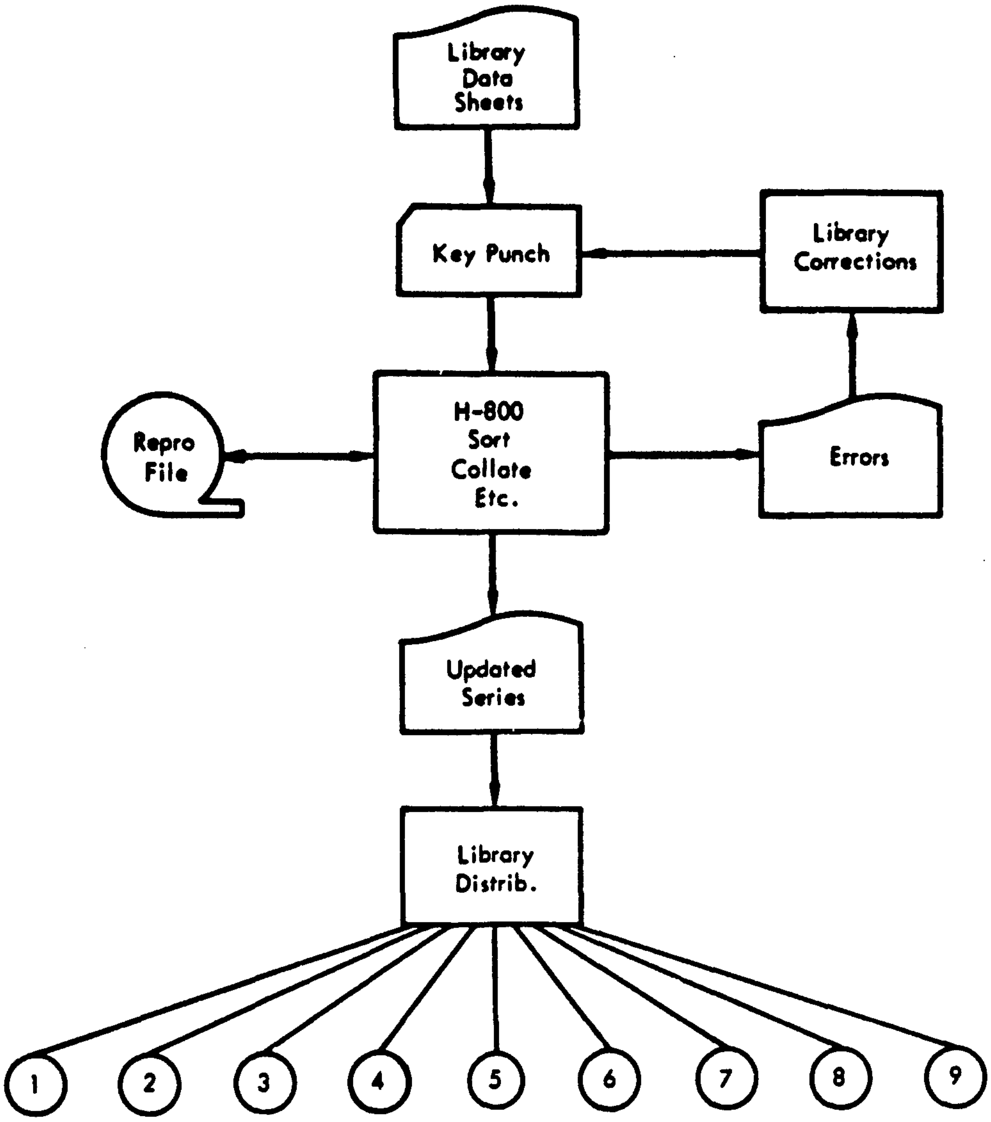
Map Searches

Authorized users may request bibliography searches either verbally or in writing. Cards are pulled by the Library staff and are sent to Computer Services, where a printout is made. All copies of the printout are forwarded to the requester. Appendix C is a copy of a partial printout of a search for all available maps on Thailand.

3. DESCRIPTION OF MAP REPRODUCTION TABULATION PROCESSES

The AMS Repromat Tabulation provides a current list of all Repromats held in the Library. A complete tabulation is produced semiannually that lists all known sheets of a map series and indicates those for which AMS holds Repromats. In addition, a listing updating the basic tabulation is produced monthly.

The mechanization of the Repromat File is described in the flow diagram of Figure 1.


Library Data Sheets
Key Punch
Library Corrections
H-800 Sort Collate Etc.
Repro File
Errors
Updated Series
Library Distrib.
1
2
3
4
5
6
7
8
9

1. Repro
2. MAD
3. D/GAD
4. Library Hdqtrs
5. Collection
6. AMDEP
7. P & P
8. USAREUR
9. USAMSFE

Errors

1. No card type designated
2. Action code undefined
3. Item to be deleted is not in file.
4. Item to be updated is not in file.

FIGURE 1
Library Map Reproduction Material
Tabulation

(1) Input Procedures

Input data sheets are prepared in the Library, containing all the data that are to be entered into the file. Copies of the data sheets and instructions for their completion are shown in Appendix D. The input data are then forwarded to Computer Services, where 80-column cards are punched directly from the data sheets, since the card format and data sheet format are identical.

The punched cards are then processed on the H-800 computer to produce a magnetic tape. The data are first sorted by series number and sheet number and then are collated with the Master Repromat File. An error listing is produced for illogical items and cards that have omissions. The error listing is sent back to the Library so that corrected cards may be produced. A printout for those map series that have been modified is then produced and is sent to the Library for distribution.

(2) Output

The output data consists of an 80-column printout of those map series that have been modified. Separate pages are produced for each map series so that the initial printout may be updated by replacement of the corresponding page. Appendix E contains a sample of the printout format, together with an explanation of the column headings and codes used. Because of the number of copies required, the printout must be run off twice.

4. DESCRIPTION OF BOOKS PROCESSES

Mechanization for books is limited to the Authority File, which is maintained on punched cards for the present. Beginning with the "A's" and proceeding through the alphabetical files, author and source authorities are being entered on worksheets. Approximately 1,000 entries have been processed in the "A's."

Worksheets are completed as follows (see Appendix F for samples of worksheets):

Label	Columns
Code number of authority	1-6
Country abbreviation	8-9
Title or name of authority	12-59
Cross-reference	62-71
Alphabetizing code	73-79

Worksheets are forwarded to Computer Services for keypunching onto 80-column cards. No formal printout of this file has been made.

5. DESCRIPTION OF PERIODICALS PROCESSES

(1) Input Procedures

1. New periodicals are received in the Library.

2. Worksheets are completed as follows (see Appendix G-1 for sample of worksheet):

Label		Columns
Title		1-45
Alphabetizing code		46-51
Texts:	1st	52-53
	2nd	55-56
Frequency		58
Retention		60
Areas:	1st	62-65
	2nd	67-70
Subject codes:		
	1st	71-72
	2nd	73-74
Subjects written or abbreviated (up to three)		75-89

3. Subjects are selected from a list of 99 items.

4. Worksheets are forwarded to Computer Services for keypunching.

(2) Output

A list of periodicals currently received in AMS is issued once a year in two parts. The first part is alphabetical; the second is by subject (see Appendix G-2 to G-4 for examples and instructions). The most recent issue was printed from the punched cards utilizing the Univac 1004 computer. In the future, this file will be transferred to magnetic tape.

6. MAJOR PROBLEMS

As a result of the experience gained since 1963, it is now felt that several areas of the mechanized Repromat File System should be modified. Examples of those areas for which modifications are being considered follow.

The tabulation for each series includes sheets that are not in the inventory. This was done to indicate the contents of the complete map series. It has proved to be a problem from the standpoint of added volume and increased time required for the monthly update.

Any action within a series of maps gives a complete revision of each series. This saves time during the monthly manual correction of the tabulation by allowing a one-for-one page replacement. However, it is primarily responsible for the long printout time required on the high-speed printer.

Printouts of a series include an asterisk to indicate that some action has been taken on an item (i. e., additions, deletions, revisions);

however, no indication of the type of action is given. This is especially troublesome in the case of deletions.

More identifying information is included in map series printouts than is needed. The map series and number of sheets would have been sufficient. (See Appendix C.)

In order to obtain a printout of an entire series, a particular sheet within the series must be identified. A program for the printout of the entire series would have been of greater benefit.

In order to cancel a series, each sheet number within that series must be identified.

A printout of a specific series can be given, but a computer search cannot be made.

Complete program documentation was not provided.

III. PROGRAM SYSTEM DATA

The Repromat File consists of photographic films that depict mapping features and that are primarily used to make lithographic press plates for the production of maps. The Library originally maintained control of the repromats by using the 90-column punched card file, which contained approximately 130,000 cards. The Repromat File was converted to magnetic tape for use on the AMS Honeywell H-800 series computer in 1963. The conversion was performed by examining and manually recataloging, on new data sheets, every item in the repromat library (120,000 repromat sets--approximately 1,200,000 film pieces). In this way, the magnetic tape file was built up without causing any inconveniences either to the Library or to the Computer Services group. The Library continued to use the 90-column card file until the magnetic tape system was placed in operation.

The computerized Repromat File is arranged by map series numbers and sheet numbers or sheet names; a new series number starts a new page. Whenever a change occurs in a series (repromat added, revised, or deleted), all pages containing the particular series are reprinted. An asterisk to the left of the sheet number or name will identify the sheet affected. Maintenance of the basic tabulation is performed by manually substituting the new pages for the old.

The program system is depicted in the flow charts of Figure 2. The flow charts describe the main body of the program and do not include the input, presort, and sort routines required before the start of this section of the program. The program reads and compares each item on the master and input data files; performs the necessary operations of addition, deletion, or substitution; and prepares a new master file tape and an output tape to be used for printing and replacement pages for the Repromat Tabulation.

1. FILE

The primary key in the magnetic tape file is the map series number. The secondary key is the map sheet number or sheet name. Map sheet numbers exist in a variety of forms and are more commonly used than names. (Some sheet numbers are Arabic numbers, some are Roman numerals, and others are a combination of both.) The form of a sheet number is constant within a series but may be different from one series to the next. There are approximately 1,200 series in the file.

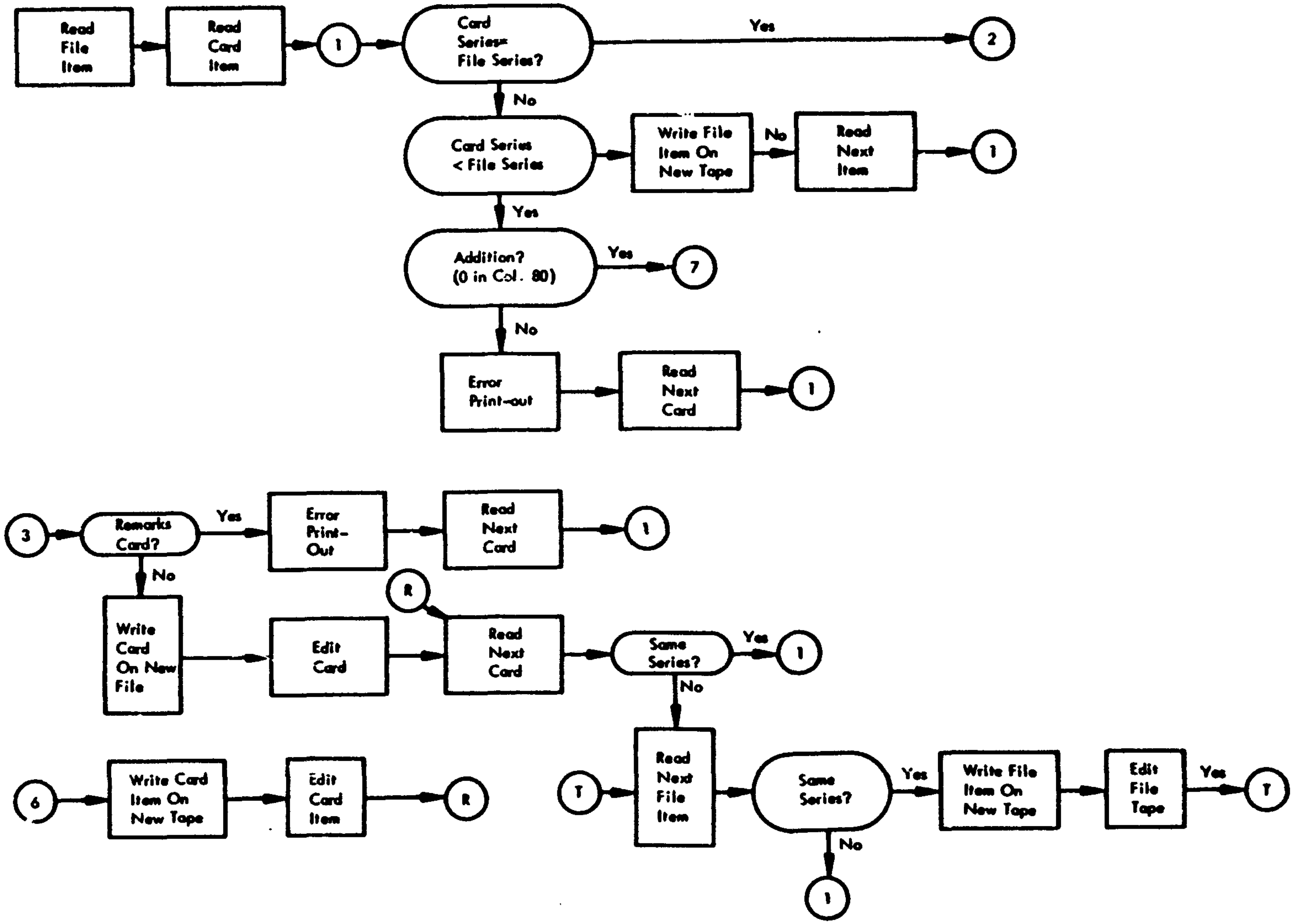
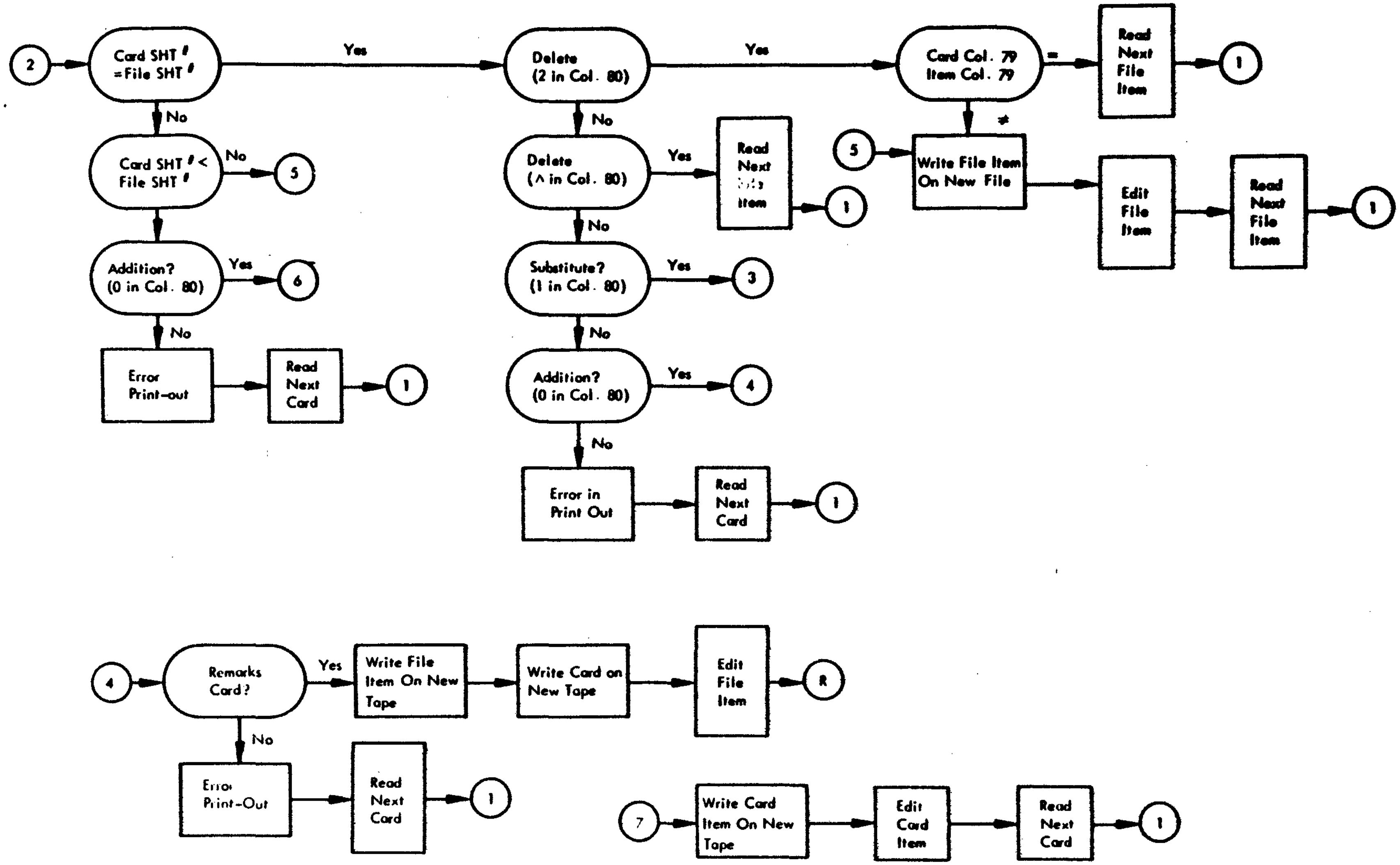

Read File Item
Read Card Item
1
Card Series= File Series?
Yes
2
No
Card Series < File Series
Write File Item On New Tape
No
Read Next Item
1
Yes
Addition? (0 in Col. 80)
Yes
7
No
Error Print-out
Read Next Card
1
3
Remarks Card?
Yes
Error Print-Out
Read Next Card
1
No
Write Card On New File
Edit Card
R
Read Next Card
Same Series?
Yes
1
No
6
Write Card Item On New Tape
Edit Card Item
R
T
Read Next File Item
Same Series?
Yes
Write File Item On New Tape
Edit File Tape
Yes
T
No
1

FIGURE 2
Program System--Map Reproduction Tabulation


2
Card SHT #
=File SHT #
Yes
No
Card SHT # <
File SHT #
No
5
Addition?
(0 in Col. 80)
Yes
6
No
Error
Print-out
Read
Next
Card
1
Delete
(2 in Col. 80)
Yes
No
Delete
(^ in Col. 80)
Yes
Read
Next
File
Item
1
No
Substitute?
(1 in Col. 80)
Yes
3
No
Addition?
(0 in Col. 80)
Yes
4
No
Error in
Print Out
Read
Next
Card
1
Card Col. 79
Item Col. 79
=
Read
Next
File
Item
1
≠
5
Write File Item
On New File
Edit
File
Item
Read
Next
File
Item
1
4
Remarks
Card?
Yes
Write File
Item On New
Tape
Write Card on
New Tape
Edit
File
Item
R
No
Error
Print-Out
Read
Next
Card
1
7
Write Card
Item On New
Tape
Edit
Card
Item
Read
Next
Card
1

System Flow Chart

FIGURE 2 (Continued)

The data entries in the file are arranged by "item". Each item contains all the information associated with a single map series number. This information is categorized into words, and there are 14 words per item. There are two possible formats for each item, as follows:

Format I

Word	Character Format	Explanation
1	SSSSSSNN	
2	NNNNNNNN	S's = Series number
3	NNNNNNNN	N's = Sheet names or number
4	NNNNNNNN	
5	SAAADDDO	S = Security, A's = Agency,
		D's = Data, O = Omaha
6	MMKKKKKK	M's = Material
7	KKKKKKKK	K's = Number and kind of material
8	KKTTEEEE	
9	RRRRRRRR	T's = Total, E's = Edition
10	RRRRRRIA	R's = Remarks, A = Action
		I = Data Card Image
11	SSSSSSNN	Same as words 1-4 with spaces suppressed to zeros (used as sort keys)
12	NNNNNNNN	
13	NNNNNNNN	
14	NNNNNNNN	

Format II

Word	Character Format	Explanation
1	SSSSSSNN	
2	NNNNNNNN	S's = Series Number
3	NNNNNNNN	N's = Sheet name or number
4	NNNNNNNN	
5-9	RRRRRRRR	R's = Remarks
10	RRRRRRZA	Z = Detail card image A = Action
11	SSSSSSNN	Same as words 1-4 with spaces suppressed to zeros (used as sort keys)
12	NNNNNNNN	
13	NNNNNNNN	
14	NNNNNNNN	

There are 17 items per record. The file identification record must not exceed 242 words in length. The tape is sorted on ascending words: 11, 12, 13, 14. Maintenance of the file involves approximately 500 cards per month. (The printout, however, will have approximately 15,000 line items.)

2. PROGRAMS

There are six major programs that may be identified within the file maintenance program. Because of the lack of complete program documentation at present, the ensuing descriptions must be general in nature.

(1) Input

This run places all punched card input data onto magnetic tape.

(2) Presort

This run rearranges the punched card input data into the word format previously indicated under the file description.

(3) Sort

A modified Honeywell H-800 sort run is employed to sort each item on the input tape in ascending order, using the keys provided by words 11-14. The items are therefore arranged by ascending series number and within each series by ascending sheet number or alphabetic characters (if sheet name is used).

(4) Collate

The collate run is the main body of the program. It compares the master file and the sorted input file; makes the necessary deletions, substitutions and additions; and forms a new master file. It also prepares an output tape to be used for printing the revised pages for the Repromat Tabulation.

(5) Error

If, during the update or collating run, a logical error is discovered (e. g., an item to be updated does not exist in the master file), an error printout will indicate the card that caused the error and will identify the error condition. The run is not stopped by these errors, and the erroneous information is disregarded by the computer.

(6) Edit

The edit run converts the format of the data on the output tape to the format required for printing. The edit or print format is as follows:

Header

Columns	Heading
2-7	Series
11-30	Sheet number or name
38-40	Sec
42-47	Agency
49-52	Date
54-55	OM
57-59	Mat
62-86	Number and kind of sheets
93-97	Total
99-105	Edition
109-115	Remarks

Data Line--Type 1

Columns	Data
2-7	Series number
11-36	Sheet number or name
39	Security code
43-45	Agency
50-52	Date
55	At Omaha
58-59	Material
62-92	Number and kinds of sheets
95-96	Total
100-103	Edition
106-119	Remarks

Data Line--Type 2

Columns	Data
1-40	Spaces
41-88	Remarks
89-120	Spaces

Appendix E-1 shows a sample of a printed page.

IV. EQUIPMENT AND COSTS

1. REPROMAT FILE

The system employed for automatic data processing of the Repromat File makes use of the electronic data-processing equipment available at AMS in the Department of Computer Services. None of the equipment is owned or operated by the Library. The Library is charged $250/hour for use of the H-800 computer, $15/hour for the high-speed printer, and $8.10/hour for the use of card-handling equipment. Cost of materials used is also charged to the Library. The following are representative monthly operating costs:

Card punching, verifying, etc. (400 cards/mo, 7 hr at $8.10)	$ 57
Card to tape and update (1 hr/mo at $250)	250
Printout (400 pages/mo--2 runs--4 hr/mo at $15)	60
Materials (cards and printpaper)	24
Monthly operating cost (average)	$391/mo

In addition, services amounting to one full-time cataloger in the Library are required for preparation of the input data sheet and other duties concerned with the Repromat File. Thus, the cost of the automatic data-handling portion of the system is only a fraction of the cost of the Library catalogers.

The initial one-time costs involved in converting the system were estimated as follows:

Cataloging	$ 62,600
Keypunching, verification, etc.	15,390
Card-to-tape conversion	2,170
Printing	80
Programming	920
Applications analysis	1,300
Total	$ 82,460

The conversion required the services of 10 catalogers full time for one year plus 1,600 hours overtime.

2. MAP FILE

The maintenance of the map card file during Fiscal Year 1965 involved cataloging 88,228 maps, recataloging 15,306 maps, and canceling 67,317 maps. Representative monthly operating costs are as follows:

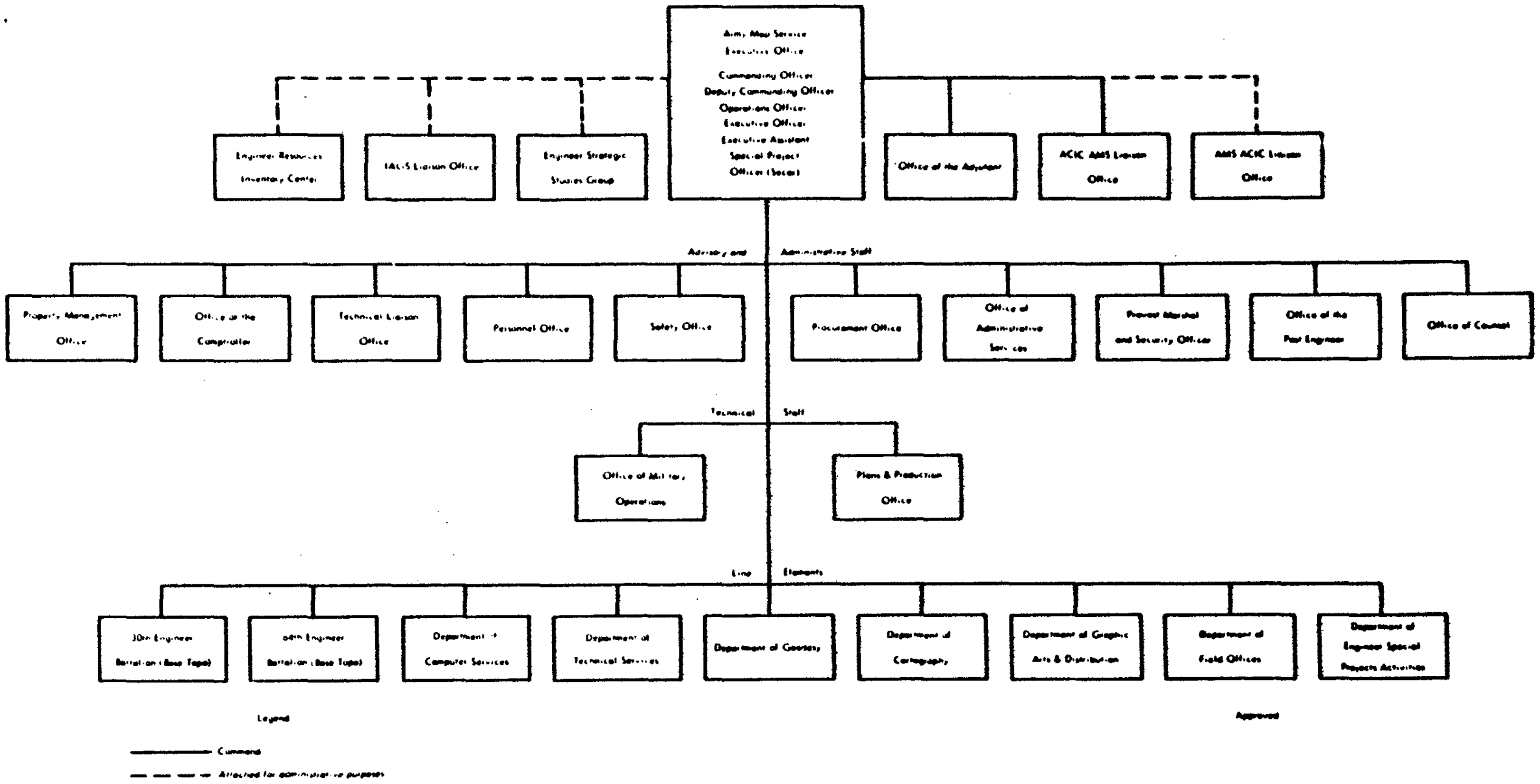
306 Remington keypunch (250 hr/mo)	$ 2,025
312 Remington interpreter (25 hr/mo)	203
315 Remington reproducer (20 hr/mo)	162
420 Remington sorter (20 hr/mo)	162
Total	$ 2,552

The above does not include the cost of the Library personnel who prepare the input data sheet, assign accession numbers, file punched cards, etc. The major portion of the time of 23 catalogers is spent on these tasks.

In addition, an Accessions Bulletin that indicates the new and revised maps in file is printed twice monthly using the Univac 1004. Approximately 70 Bulletins are produced at each printing, with an average over the year of 100 pages per Bulletin.

APPENDIX A

ORGANIZATION CHARTS

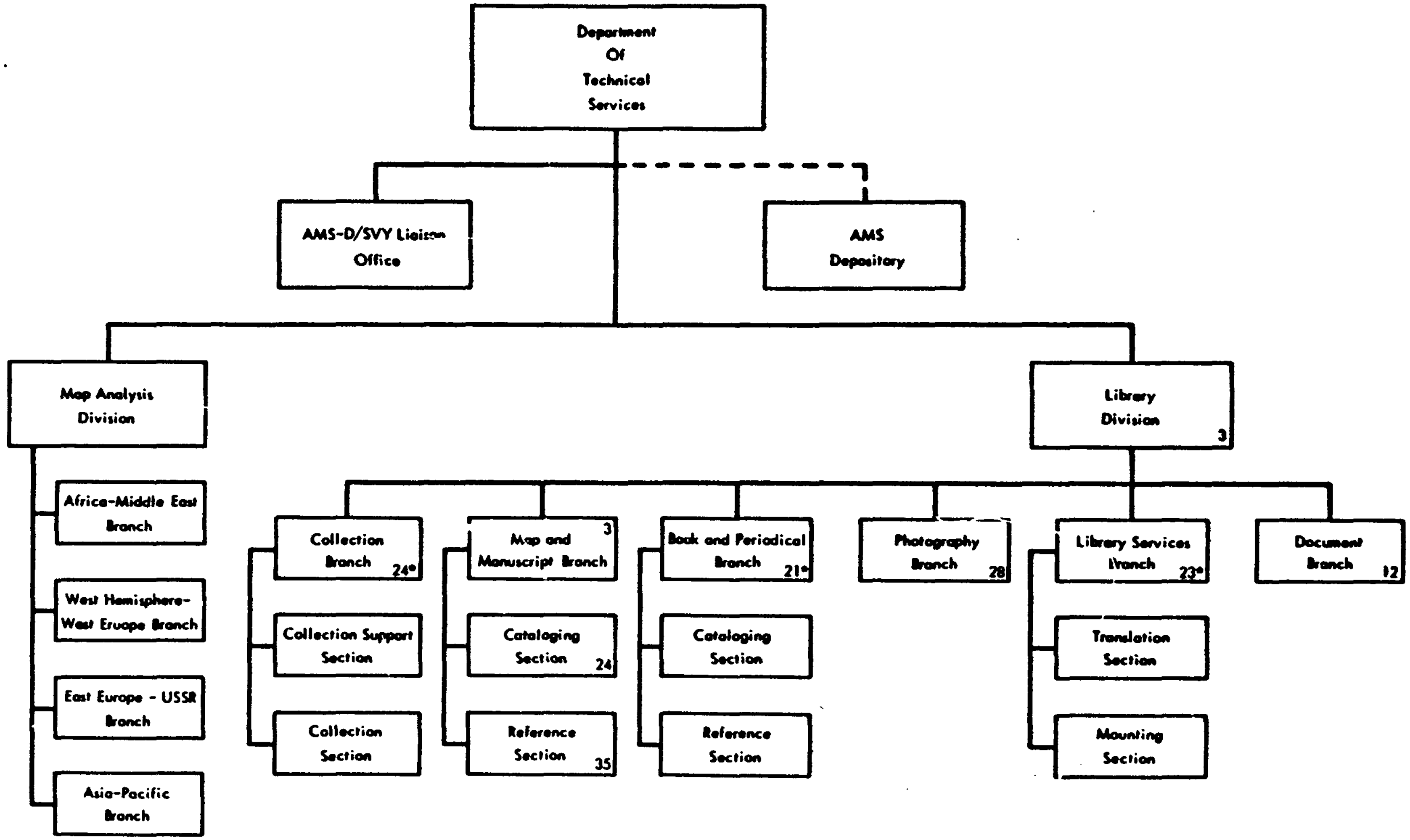

Army Map Service
Executive Office
Commanding Officer
Deputy Commanding Officer
Operations Officer
Executive Officer
Executive Assistant
Special Project
Officer (Secat)
Engineer Resources Inventory Center
IAGS Liaison Office
Engineer Strategic Studies Group
Office of the Adjutant
ACIC AMS Liaison Office
AMS ACIC Liaison Office
Advisory and Administrative Staff
Property Management Office
Office of the Comptroller
Technical Liaison Office
Personnel Office
Safety Office
Procurement Office
Office of Administrative Services
Provost Marshal and Security Office
Office of the Post Engineer
Office of Counsel
Technical Staff
Office of Military Operations
Plans & Production Office
Line Elements
30th Engineer Battalion (Base Topo)
64th Engineer Battalion (Base Topo)
Department of Computer Services
Department of Technical Services
Department of Geodesy
Department of Cartography
Department of Graphic Arts & Distribution
Department of Field Offices
Department of Engineer Special Projects Activities
Legend
Command
Attached for administrative purposes

Prepared By
Management Division
Office of Comptroller
Army Map Service
27 Sep 65

Approved

W. H. Van Atta
Colonel, Corps of Engineers
Commanding

Army Map Serivce


Department Of Technical Services
AMS-D/SVY Liaison Office
AMS Depository
Map Analysis Division
Library Division 3
Africa-Middle East Branch
West Hemisphere-West Eruope Branch
East Europe - USSR Branch
Asia-Pacific Branch
Collection Branch 24*
Collection Support Section
Collection Section
Map and Manuscript Branch 3
Cataloging Section 24
Reference Section 35
Book and Periodical Branch 21*
Cataloging Section
Reference Section
Photography Branch 28
Library Services Branch 23*
Translation Section
Mounting Section
Document Branch 12

* Represents total number of personnel in entire branch

Army Map Service Organization Chart

APPENDIX B

MAPS PROCESSING

MAP CARD A & B

AREA	TYPE	SUBJECT	AUTHORITY	SCALE	
2 3 4	5 6	7 8 9 10	11 12 13 14 15	16 17 18 19 20 21 22 23 24	25

CATALOG DATA SHEET (CARD A & B)
SERIES

MAP CARD
A CARD CROSS REFERENCE
B CARD CROSS REFERENCE

REMARKS

MAP CARD B

EXACT TITLE	SERIES NUMBER & MISC CROSS REFERENCES		AREA, SUBJECT, FOLDER - X - REF	TEXT	
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75	76	77 78 79 80 81 82 83 84 85	86 87 88 89	90

MAP CARD A

SHEET NUMBER OR NAME		NEGATIVE NO	EDITION	SIGNIFICANT DATE		SOURCE	DESCRIPTION 1	DESCRIPTION 2	DESCRIPTION 3	SECONDARY AUTHORITY		ACCESSION NUMBER	PRINTING DATE		ACC DATE		
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	46	47 48 49 50 51 52	53 54	55 56 57 58 59	60	61 62 63 64	65 66	67 68	69 70	71 72 73 74 75	76	77 78 79 80 81 82	83 84	85 86	87 88	89	90

ACCESSION DATE

AMS FORM 3420-12

B-1 (continued)

CATALOG DATA SHEET (CONTINUATION CARD--A)

SHEET NUMBER OR NAME	[illegible]	NEGATIVE NO	EDITION	SIGNIFICANT DATE	[illegible]	SOURCE	DESCRIPTION			SECONDARY AUTHORITY	[illegible]	ACCESSION NUMBER	PRINTING DATE	ACC DATE	[illegible]	[illegible]
							1	2	3							
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	46	47 48 49 50 51 52	53 54	55 56 57 58 59	60	61 62 63 64	65 66	67 68	69 70	71 72 73 74 75	76	77 78 79 80 81 82	83 84 85 86	87 88	89	90

ACCESSION DATE ____________

CATALOG DATA SHEET CARD—A

URBAN AREAS — GENERALS—PARTS—MISC

CARD A	AREA	TYPE	SUBJECT	AUTHORITY	SCALE	SLANT	SHEET NUMBER OR NAME
	1 2 3 4	5 6	7 8 9 10	11 12 13 14 15	16 17 18 19 20 21 22 23 24	25	26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
1							
2							
3							
4							
5							
6							
7							
8							

CARD A	PFC	SPECIAL SERVICES NEGATIVE NO	EDITION	SIGNIFICANT DATE		TYPE REPRO	SOURCE	DESCRIPTION			SECONDARY AUTHORITY	CLAS	ACCESSION NUMBER	PRINTING DATE	ACC DATE	SHEET ANALYSIS	CONTROL
				TYPE				1	2	3							
	46	47 48 49 50 51 52	53 54	55	56 57 58 59	60	61 62 63 64	65 66	67 68	69 70	71 72 73 74 75	76	77 78 79 80 81 82	83 84 85 86	87 88	89	90
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	

AMS FORM 3420-11
1 APR 65

REPLACES EDITION OF 10 FEB 64 WHICH MAY BE USED

☐ URBAN AREA CARD

A CARD CROSS REFERENCE

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8

B CARD CROSS REFERENCE

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8

☐ UNION CATALOG CARD

CATALOG DATA SHEET CARD—B

URBAN AREAS GENERALS—PARTS—MISC

CARD B	AMS CALL NUMBER																								EXACT TITLE																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
1																																													
2																																													
3	SEE																																												
4	REVERSE																																												
5	SIDE																																												
6																																													
7																																													
8																																													

CARD B	EXACT TITLE												EXACT LOCATION																		CLAS	AREA, SUBJECT, FOLDER X-REF									TEXT				CONTROL
																							ALPHABETIZING CODE																					
	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
1																																													
2																																													
3																																													
4																																													
5																																													
6																																													
7																																													
8																																													

APPENDIX C

MAP SEARCH PRINTOUT

GENERAL MAPS

5L 01 2450 85040 2000000
THE SHELL ROAD MAP OF THAILAND ENGL AND THAI
85040 SHELL OIL COMPANY INC NEW YORK S0

SHEET	EDITION	DATE CODE		SEC AUTH	PRINT DATE	SEC CODE
THAILAND		P1963	L		1963	

GENERAL MAPS

5L 01 2450 85043 2300000/2
ROAD MAP BANGKOK THONBURI AND THAILAND THAI
85043 CALIFORNIA TEXAS OIL COMPANY LIMITED CT

SHEET	EDITION	DATE CODE		SEC AUTH	PRINT DATE	SEC CODE
THAILAND		1964	L		1964	

SERIES MAPS

5L 03 3000 90000 50000
THAILAND 0 THAI ENGL
THAILAND AMS L708 S 0 3UENGL
90000 ARMY MAP SERVICE AM

SHEET	EDITION	DATE CODE		SEC AUTH	PRINT DATE	SEC CODE
5864 II	1	M1963	L	90052	0364	
5963 III	2	M1964	L	90052	0664	

URBAN AREAS

5L 41 2900 85040 12500
MAP OF BANGKOK N1345E100310520000 ENGL AND THAI
85040 SHELL OIL COMPANY INC NEW YORK S0

SHEET	EDITION	DATE CODE		SEC AUTH	PRINT DATE	SEC CODE
BANGKOK THAILAND		0164	L		0164	

APPENDIX D

INPUT PROCEDURES
MAP REPRODUCTION TABULATION

LAYOUT FORM - 80 COLUMN CARD

	Series	Name or Number	SECURITY	AGENCY	DATE	OMAH. DEP	MATERIAL	Number and Kind of Reproduction Material	TOTAL	EDITION	Remarks	CARD TYPE	ACTION
R													
X													
0													
	1 2 3 4 5 6	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	33	34 35 36	37 38 39	40	41 42	43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	59 60	61 62 63 64	65 66 67 68 69 70 71 72 73 74 75 76 77 78	79	80
1													
2													
3													
4													
5													
6													
7													
8													
9													
	1 2 3 4 5 6	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	33	34 35 36	37 38 39	40	41 42	43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	59 60	61 62 63 64	65 66 67 68 69 70 71 72 73 74 75 76 77 78	79	80

Title Card Type 1, Repro Data Card	
Prepared By	For Program
By Programmer	Checked By
Modification	Date
Remarks	

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Page ____ of ____

LAYOUT FORM – 80 COLUMN CARD

	Series	Name or Number	Remarks	CARD TYPE	ACTION
R					
X					
0					
	1 2 3 4 5 6	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78	79	80
1					
2					
3					
4					
5					
6					
7					
8					
9					
	1 2 3 4 5 6	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78	79	80

Title Card Type 2, Remarks Card	
Prepared By	For Program
By Programmer	Checked By
Modification	Date
Remarks	

AMS Form 8201-1
6 Jun 63

Page ____ Of ____

Data Sheet Completion Instructions

In order to prepare data sheets for use as input information, certain basic knowledge of the requirements and limitations of the computer is required. The printout will furnish only information that is put into the computer. As long as the information is routine, the computer operates without any specific instructions. For any information placed in the computer contrary to the normal routine or contrary to its normal sequence, it must be instructed by means of a "flag" appearing in a predetermined column. In this instance, columns 79 and 80 of the data sheet will be reserved for this purpose. The flag is an assigned letter or number which gives instruction to the computer. A list of the assigned flags and their duties appears at the end of this SOP.

The sequence of the computer is 0 thru 9, A thru Z. This being the case, all continental would appear on a printout before any of the alphabetical series. Since this holds true in all areas of the printout, it must be foremost in the cataloguers mind when placing information on the data sheets. Further consideration is given to sequence under Sheet Names or Number.

The allotment of spaces on the data sheet is as follows:

	Spaces	Total
Series	6	
Sheet Name or No.	26	32
Security	1	33
Agency	3	36
Significant Date	3	39
Omaha	1	40
Material	2	42
Pieces	16	58
Total Pieces	2	60
Edition	4	64

The Repromat Files are presently arranged in Series and Sheet Number order. It is desired to continue with this system, consequently, accuracy is of utmost importance in the arrangement of information in the first 32 spaces. These spaces are for the series and sheet number and are the computer's instruction for arranging in order.

Each item appearing on the data sheet is explaned in detail below:

a. Series - Spaces 1 thru 6.

The series will be placed on the data sheet, beginning with space one and using as many of the six spaces as required. No blank spaces should appear between the beginning and end of a series identification.

b. Sheet Name or Number - Spaces 7 thru 32.

The sheet name will undoubtedly create the most difficulty and require the most care by the cataloguers. The sheet numbering system for each series will have to be considered before placing on the data sheets. The cataloguer must keep in mind that any time a space is left immediately preceding a zero, the printout will drop the zero. The reason for this is so that when a file is arranged in straight numerical order, the zeros preceding the unit will be dropped. It would appear on the data sheet as follows:

001
002
009
010
012
010
111

The same sheets would appear on the printout as follows:

1
2
9
10
12
101
111

If the numbering system continued into thousands, an additional zero must be added in front, etc. Since the zeros are not desired on the printout but are used to fill the field, it is necessary to leave a space preceding the field. Consequently, space 7 should not be used.

Some of the series (e.g. M841) have sheet numbers beginning with zero: 0810, 0820, etc. The field for these numbers should begin at column 7 so the zeros would not be omitted.

D-3 (continued)

Sheet numbers such as 240 085 in Series K835 must utilize a slant, 240/085 in order to retain the 0 in 085.

Roman numerals are often used as a sheet numbering system such as M761. Since the computer treats the roman numeral as a letter, it requires special treatment. Place Z's in the first two columns (Column 7 and 8) of the name field. The arabic number equivalent recorded in the next columns, filling any spaces between the number and the Z's with zeros. Example:

ZZ001
ZZ011
ZZ111

The sheet number as it normally appears in roman numerals form should be recorded, beginning with column 65.

c. Security - Space 33.

The security codes presently in use by the map library will be used for reproduction material as well.

d. Agency - Spaces 34 thru 36.

This will not change from the policy used on the 90 column card.

e. Significant Date - Spaces 37 thru 39.

No change from old policy.

f. Omaha - Space 40.

Tabs will be received from Omaha of their coverage and will be the sole authority for indicating coverage.

g. Material - Spaces 41 and 42.

A new code has been devised to indicate the type of material reported:

Material	Code
PBN	N1
TBN	N2
VBN	N3
PBP	P1
TBP	P2
VBP	P3
AP	P4
PP	P5

h. Pieces - Spaces 43 thru 58.

It will no longer be necessary to indicate the letter code when listing the pieces, only the number of pulls for each feature in the proper column. The letter code will be programmed into the computer. An additional space was allotted to Miscellaneous (N), to be used when more than 9 pulls are held on one feature. For instance, a set has 11 tints, indicate 9 under tints (R) and list the other two in Miscellaneous. The letter "M" should be used if a pull is missing from a set.

i. Total Pieces - Spaces 59 and 60.

No change in procedure.

j. Edition - Spaces 61 thru 64.

No change in procedure.

Spaces 65 thru 78 are reserved for clarification of sheet name or number or for a plain language explanation of some other feature recorded on the data sheet. At the present time, the only use that comes to mind is for recording the roman numeral sheet numbering system as referred to earlier.

Additional use will be made of the spaces, I'm sure, when we become involved in the actual recording procedure.

In some instances, the regular line map and plastic model utilize the same pulls that are common to both sets. The features that are used to compile both series should be recorded on the data sheets under both sheets, even though there may be only one set of repro. In filing the material, those pulls that are common should be filed with the line map. The folder containing the pulls for the plastic model only should have a note attached: "See line map for remainder of repro."

When it becomes necessary to place additional information on a detail card (information beyond column 80), the same data sheet will be used. The first 32 columns will be prepared exactly as on the header card. The detailed information can then be recorded in plain language, beginning with Column 33. The proper flags must be recorded in Columns 79.

D-3 (continued)

Listed below are the flags which will serve to instruct the computer:

Card Column 79 will indicate the type of card
Code
0 - Repro data card (header)
1 - Remarks card (detail)

Card column 80 will indicate the action to be taken
0 - File the Card
1 - Up-date information already in file
2-a. Delete all cards of the type indicated in column 79 of the indicated series and sheet.
  b. No punch in column 79, delete all cards of the indicated series and sheet.

APPENDIX E

MAP REPRODUCTION TABULATION PRINTOUT FORMAT AND EXPLANATION

Map Reproduction Tabulation Printout Format

```
SERIES  SHEET NUMBER OR NAME     SEC AGENCY DATE CM MAT  NUMBER AND KIND OF SHEETS        TOTAL EDITION   REMARKS

1301    ICELAND SPECIAL              AMS    M52  X  N1  1A    1D1E1F   1H      1N    9R  15   4AMS
1301    NA  1
1301    NA  4
1301    NA  5
1301    NA 17                        AMS    V52  X  N1  1A    1D  1F   1H      7N    9R  20   1AMS
1301    NA 18                        AMS    V58  X  N1  1A        1F   1H          1G     4   1AMS
1301    NA 19                        AMS    V52  X  N1  1A        1F   1H                 3   1AMS
1301    NA 20                        AMS    V48  X  N1  1A      1E1F   1H   1K       7R  12   1AMS
1301    NA 21                        AMS    V48  X  N1  1A      1E1F   1H   1K       5R  10   1AMS
1301    NA 22                        CNG    M50  X  N1  1A        1F                      2   NONE
1301    NA 26
1301    NA 32                        AMS    M60  X  N1  1A    1D2E1F1G1H       2N    9R  18   2AMS
1301    NA 33                        AMS    M56  X  N1  1A1B  1D1E2F   2H   1K   2P        11   2AMS
1301    NA 34                        AMS    M56  X  N1  1A1B  1D1E1F   1H1J1K   1P   2R  11   3AMS
1301    NA 35                        AMS    M56  X  N1  1A    1D  1F   1H      2N  1G9R  16   3AMS
1301    NA 36                        AMS    M63  X  N1  1A    1D1E1F   1H1J    1N  109R  17   4AMS
1301    NA 37                        DMS    P56  X  N1  1A    1D1E1F1G1H   1K        2R   9   3GSG
1301    NA 38                        DMS    P56  X  N1  1A    1D1E1F   1H             1R   6   3GSG
1301    NA 43 SA 43                  DMS    M45  X  N1  1A    1D1E                         3   1GSG
1301    NA 46
1301    NA 47                        AMS    M57  X  N1  1A    1D1E2F   1H      1N1P  9R  17   5AMS
1301    NA 48                        DMS    V54  X  N1  1A    1D1E1F   1H   1K       2R   8   5GSG
1301    NA 49                        AMS    M44  X  N1  1A    1D1E1F   1H   1K       6R  12   3AMS
1301    NA 50                        AMS    M44  X  N1  1A    1D1E1F   1H   1K       8R  14   3AMS
1301    NA 51                        AMS    M44  X  N1  1A    1D1E1F   1H            8R  13   3AMS
```

DESCRIPTION OF REPROMAT PRINTOUT

A brief description of the Series Number, arrangement of the tabulation, and a key to the codes used are explained in the following paragraphs.

1. SERIES NUMBERING SYSTEM

The world is divided into continental and regional areas which are designated by numerals and/or letters.

The series number consists of four elements as follows:

- First element--a numeral or letter identifying the continental or regional area in which the series occurs
- Second element--a numeral indicating either the scale or a city plan or photo map
- Third element--a numeral identifying the subregional area in which the series occurs
- Fourth element--a numeral giving unique identification to the series

The first element of a series number is selected as follows:

- A world series is assigned the numeral 1
- A small scale map covering a continental or regional area is assigned a numeral (e.g. 2-Africa, 3-Antarctica, etc.)
- For medium and large scale maps of continental areas, a letter is assigned (e.g. A-Canada, E-Latin America, S-Philippine Islands, etc.)
- The Index to Regional Areas shows the assignment of numerals and letters to the regional areas.

The second element of a series number is selected as follows:

SCALE GROUP	SECOND ELEMENT
1:5,000,000 and smaller	1
Larger than 1:5,000,000 to 1:2,000,000	2
Larger than 1:2,000,000 to 1:510,000	3
Larger than 1:510,000 to 1:255,000	4
Larger than 1:255,000 to 1:150,000	5
Larger than 1:150,000 to 1:70,000	6
Larger than 1:70,000 to 1:35,000	7
Larger than 1:35,000	8
City Plans (regardless of scale)	9
Photo Maps (regardless of scale)	0

The third element of the series number is assigned in accordance with the numerals assigned to subregional areas as indicated on the regional indexes. A numeral "O" is used if the series extends beyond a subregional area.

The fourth element of the series is a number and, in some cases, two. They identify the specific series and are assigned in order as a series is developed.

A letter suffix sometimes appears on a series and is used to denote some specific type of mapping. The following letters appear on this print-out:

A - An added series
P - Plastic relief series
R - Native language series
S - Special series
SP - Special Plastic relief series
W - A special series of the world

2. PRINTOUT ARRANGEMENT

The repromat is recorded on the printout in series and sheet number order. All continental series are listed at the beginning, and the printout then progresses through Area B to Area Z.

Because of the order of priority given to numerals by the computer, certain series are arranged differently than one is normally accustomed to seeing them. For example, Photo maps appear at the front of a series; i.e., L001 appears at the beginning of the L series. Another example is that series L7010 appears before L701.

The computer is incapable of arranging sheets identified by Roman numerals, so all sheet numbers appearing in parenthesis are actually Roman numerals.

3. KEY TO CODES

SEC (Security Code)

Date

W - Edition
V - Revised
L - Field Examination
M - Compiled
D - Surveyed
E - Engraved
P - Published or Printed
Z - Reprinted
B - Later than same date map in file
C - Circa
X - Interpreted but no applicable code
Blank - No interpretation date

OM (Omaha)

- X indicated AMDEP holds like material. In most instances, AMS maintains the negative and AMDEP the positive.
- O indicates that AMDEP's material is older.
- Blank indicates no repro at AMDEP.

MAT (Material)

N1	Polyester Base Negative (PBN)
N2	Topo Base Negative (TBN)
N3	Vinyl Base Negative (VBN)
P1	Polyester Base Positive (PBP)
P2	Topo Base Positive (TBP)
P3	Vinyl Base Positive (VBP)
P4	Astrolon Positive (AP)
P5	Paper Pulls (PP)

Number and kind of sheets

The letter identifies the features appearing on the pulls as follows:

A - Culture
B - Border
C - Names
D - Relief
E - Open Water
F - Drainage
G - Vegetation
H - Roads
J - Residential
K - Boundary
L - Air Data
N - Miscellaneous
P - All grids except UTM
Q - UTM Grid
R - Tints

The number preceding these letters indicate the number of each of these pulls in the set.

APPENDIX F

BOOKS PROCESSING

CATALOG DATA SHEET
SPECIAL REFERENCE FILES

☐ CANCELLED OR CHANGE OF CALL NO CARD
  ☐ BY THIS FORM
  ☐ RELISTED
  ☐ 1AB

☑ AUTHORITY CARD
  ☑ NUMERICAL
  ☐ X-REF
  ☐ TRANSLATION
  ☐ CANCELLATION

☐ SPECIAL NUMBER CARD
☐ SOURCE CARD
☐ URBAN AREA X-REF

CODE NO		NAME OF AUTHORITY
SPECIAL NUMBER	TITLE OR NAME OF URBAN AREA	

4	0	1	0	8	0		A	U			A	U	S	T	R	I	A			G	E	O	L	O	G	I	S	C	H	E		B	U	N	D	E	S	A	N	S	T	A	L	T
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

																									CODE NO												ALPHABETIZING							
AREA				TYPE		CLAS				AUTHORITY					SCALE										Alphabetizing Code																			
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

CATALOG DATA SHEET
SPECIAL REFERENCE FILES

☐ CANCELLED OR CHANGE OF CALL NO CARD
- ☐ BY THIS FORM
- ☐ RELISTED
- ☐ TAB

☑ AUTHORITY CARD
- ☐ NUMERICAL
- ☑ X-REF #1
- ☐ TRANSLATION
- ☐ CANCELLATION

☐ SPECIAL NUMBER CARD
☐ SOURCE CARD
☐ URBAN AREA X-REF

CODE NO | | NAME OF AUTHORITY

SPECIAL NUMBER | TITLE OR NAME OF URBAN AREA

											A	U	S	T	R	I	A			G	E	O	L	O	G	I	S	C	H	E		R	E	I	C	H	S	A	N	S	T	A	L	T
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

CODE NO | ALPHABETIZING

AREA | TYPE | CLAS | AUTHORITY | SCALE

																S	E	E		4	0	1	0	8	0																			
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

APPENDIX G

PERIODICALS PROCESSING

PERIODICAL LIST

CATALOG DATA SHEET
SPECIAL REFERENCE FILES

☐ CANCELLED OR CHANGE OF CALL NO CARD
☐ BY THIS FORM
☐ RELISTED
☐ TAB

☐ AUTHORITY CARD
☐ NUMERICAL
☐ X-REF
☐ TRANSLATION
☐ CANCELLATION

☐ SPECIAL NUMBER CARD
☐ SOURCE CARD
☐ URBAN AREA X-REF

CODE NO		NAME OF AUTHORITY
SPECIAL NUMBER		TITLE OR NAME OF URBAN AREA

T	I	T	L	E																																								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

						CODE NO		ALPHABETIZING
AREA	TYPE	CLAS	AUTHORITY	SCALE		TWO	1, 2 OR 3	

Alph Code						Texts						F req		R E T.		1 st Area					2 d Area				Subject Codes				Subjects written or abbreviated															
						1 st			2 d																																			
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

PART I ALPHABETICAL LIST

TITLE	TEXT 1ST	TEXT 2ND	FRQ	RET	AREA 1ST	AREA 2ND	SUBJECT
AANWINSTEN OVER DE MAANDEN	DU		12	1	1		GEN TROPICS
ABSTRACTS OF PHOTOGRAPHIC SCIENCE AND ENGR LIT	EN		12	2	1		ENGR PHOTOG
ACCESSIONS LIST (INDIA)	EN		12	3	5U		BIBLIOGRAPHY
ACCESSIONS LIST (PAKISTAN)	EN		12	1	1	7U	BIBLIOGRAPHY
ACCESSIONS LIST OF THE GEOGRAPH BR OF CANADA	EN		12	C	1		BIBL MAPPING
ACTA GEOGRAPHICA	FR		04	C	1		GEOGRAPHY
ACTA TECHNICA ACAD SCI HUNGAR SER GEOD ET GEOP	GE	EN	02	5	1	37M	GEODESY GEOPH
ACTIVIDADE ECONOMICA DE ANGOLA	PR		02	3	12		ECON COND
ADHESIVES AGE	EN		12	1	1		GRAPHIC ARTS
ADI NEWSLETTER	EN		06	1	1		DOCUMENTATION
ADMINISTRATIVE MANAGEMENT	EN		12	2	1		MANAGEMENT
ADVANCED MANAGEMENT JOURNAL	EN		04	1	1		MANAGEMENT
AFGHANISTAN NEWS	FN		12	1	1U		GENERAL
AFRICA	SP		12	3	2		GENERAL
AFRICA CALLS FROM RHODESIA AND NYASALAND	EN		06	1	4Y		GENERAL
AFRICA JOURNAL OF THE INTERNAT AFRICAN INST	EN	FR	04	3	2		ANTHROP LANG
AFRICA REPORT	EN		12	2	2		ECON COND
AFRICA TODAY	EN		12	3	2		GENERAL
AFRICAN ROADS AND TRANSPORT	EN		06	3	2		ROADS
AFRICAN WORLD	FN		12	1	2		ECON COND
AFRICANA	FN		04	2	0		GEN GEOG
AFRIQUE	FR		12	C	2		GENERAL
AFRIQUE MAGAZINE	FR		06	1	2		ECONOMIC COND
AHRAM	AR		0	C	7P		CURRENT EVENTS
AIAA JOURNAL	EN		12	1	1	51	AERON ASTRON
AIR ALMANAC	EN		03	2	1		AIR NAV GEOD
AIR CONDITIONING HEATING AND VENTILATING	EN		12	C	1		AIR CONDITION
AIR ENGINEERING	EN		12	C	1		AIR CONDITION
AIR FORCE AND SPACE DIGEST	EN		12	1	V		AERONAUTICS
AIRMANS INFORMATION MANUAL	EN		26	C	V		AERO AIRWAYS
ALA BULLETIN	FN		10	5	1		LIBRARIES
ALASKA SPORTSMAN	EN		12	1	0		GEN GEOG
ALGERIE AGRICOLE	FR	AR	06	1	4P		AGRICULTURE
ALL INDIA MOTORIST	EN		12	1	1	5U	SHPPNG TRNSPT

PART 2 SUBJECT LIST

TITLE	TEXT 1ST	TEXT 2ND	FRQ	RET	AREA 1ST	AREA 2ND	SUBJECT
COMMONWEALTH DEVELOPMENT	EN		06	1	1		ECON COND
ECONOMIC AND STATISTICAL REVIEW	EN		04	1	0		ECON COND
ECONOMIC BULLETIN (NATN BANK OF EGYPT)	EN		04	2	7P		FIN ECON COND
ECONOMIC GEOGRAPHY	EN		04	5	1		GEO EC COND
ECONOMIC NEWS OF BULGARIA	EN		1R	1	20M		COM ECON COND
EKONOMICHESKAYA GAZETA	RS		D	X	N		ECON COND
ETUDES ET CONJONCTURE	FR		12	C	6M		ECONOMIC COND
ETUDES ET STATISTIQUES	FR		12	4	176	86	ECON COND
FAR EASTERN ECONOMIC REVIEW	EN		52	1	5		ECON COND
FEDERAL NIGERIA	EN		12	1	66		GENER ECON C
GERMANY: THE MAGAZINE OF THE FEDERAL REPUBLIC	EN		04	1	4MW		EN ECON COND
GHANA RECONSTRUCTS	EN		06	1	256		ECON COND
HSIN CHIEN-SHE	CH		12	2	1L		ECON COND
INDUSTRIAL REVIEW OF AFRICA	EN		12	1	1	2	IND ECON COND
INDUSTRY OF FREE CHINA	EN		12	2	193L		ECON COND IND
INDUSTRY TODAY	EN		12	2	1	1R	ECON COND IND
INFORMACION ECONOMICA SEMANAL	SP		52	C	16E		ECON COND
INTERNATIONAL COMMERCE	EN		52	1	1	V	COM ECON COND
INTERNATIONAL FINANCIAL NEWS SURVEY	EN		52	1	1		COMM ECON CON
ISRAEL ECONOMIC INDICATORS	HE	EN	12	C	13K		ECON COND
LATIN AMERICAN REPORT NEWSLETTER	EN		1R	1	7		GEN ECON COND
MAGHREB DIGEST	EN		12	1	P		GEN ECON COND
MEXICAN AMERICAN REVIEW	EN		12	2	V	F	ECON COND IND
NARODNOYE KHOZYAYSTVO KAZAKHSTANA	RS		12	2	3N		ECON COND
NETHERLANDS ECONOMIC BULLETIN FOR THE FOREIGN P	EN		24	1	33M		ECON COND
NOTES ET ETUDES DOCUMENTAIRES	FR		1R	1	1		ECON COND
NOTES ET ETUDES DOCUMENTAIRES SUPPLEMENT	FR		TW	1	1		ECON COND
OPTIMA	EN		04	1	1	SY	ECON COND
ORIENTAL ECONOMIST	EN		12	1	73L		ECON COND
OVERSEAS BUSINESS REPORTS	EN		1R	1	1		COM ECON COND
OVERSEAS REVIEW	EN		12	1	1		ECON COND
PLANOVO STOPANSTVO I STATISTIKA	BU		12	1	20M		ECON COND
POWER AND INDUSTRY	EN		12	2	S		ECON COND
QUARTERLY ECONOMIC REV OF BELGIUM LUXEMBURG	EN		04	1	13M	23M	GEOG ECON COND

LIST OF PERIODICALS CURRENTLY RECEIVED IN BOOK AND PERIODICAL LIBRARY JANUARY 1965

The first part of this list is arranged alphabetically by title and the second part alphabetically by broad subject. Each entry gives the title of the periodical, the language of the text, frequency of publication, period of retention in Army Map Service Book and Periodical Library, areas, and specific subjects concerned. These periodicals are routed upon receipt to interested elements in AMS. After routing, they are available for loan to individuals in AMS or through the Inter-Library Loan procedure to agencies outside AMS.

The list will be revised and issued annually. Inquiry concerning the list may be made by AMS personnel by telephoning extension 2317. Other government agencies may call code 140, extension 2317 or 986-2317. Written inquiries should be addressed to:

Commanding Officer
Army Map Service
ATTN: Library Division 13401
Corps of Engineers, U. S. Army
Washington, D. C. 20315

EXPLANATORY NOTES

Title

1. Initial articles are omitted.
2. The first two words are usually not abbreviated; any other words are abbreviated to shorten the title to fit the space allowed.
3. Subtitles are not given unless needed to distinguish between otherwise identical titles.

Text

1. No more than two different languages are shown.
2. The first language listed is probably the most important or most used in the periodical; the second language may be for abstracts, etc.
3. Abbreviations used:

AF	AFRIKAANS	EN	ENGLISH	IN	INDONESIAN	RS	RUSSIAN
AG	AFGHAN	ES	ESTONIAN	IT	ITALIAN	SC	SERBO CROAT
AL	ALBANIAN	ET	ETHIOPIC	JA	JAPANESE	SL	SLOVENIAN
AM	AMHARIC	FI	FINNISH	KO	KOREAN	SP	SPANISH
AR	ARABIC	FL	FLEMISH	MO	MONGOLIAN	SW	SWEDISH
BR	BURMESE	FR	FRENCH	NO	NORWEGIAN	TH	THAI
BU	BULGARIAN	GE	GERMAN	PE	PERSIAN	TI	TIBETIAN
CH	CHINESE	GR	GREEK	PL	POLISH	TU	TURKISH
CZ	CZECH	HE	HEBREW	PR	PORTUGUESE	UK	UKRAINIAN
DA	DANISH	HU	HUNGARIAN	RM	RUMANIAN	VT	VIETNAMESE
DU	DUTCH	IC	ICELANDIC			UR	URDU

Frequency

1. Code used:
   D = Daily
   IR = Irregular
   SW = Semiweekly or twice a week
   TW = Triweekly or three times a week
2. A number indicates the number of times a year the periodical is issued.

Retention

1. Code used for AMS retention of periodicals:
   P = Permanent
   Number = Number of years
   X = Less than 1 year
   C = Cancelled after routing

Area

1. The AMS Library Theater area code is used.
2. Only two areas are given; if relative importance can be determined, the more important area is given first.

Subject

1. Abbreviations are used freely in order to show several subjects. They may vary depending on the space available; for example: The abbreviation for public works may be PUB WKS or P WK.
2. Two spaces are used between words to show two subjects, one space indicates one subject either inverted or in running order; for example: Geography, Economic and Current Events.

As an additional aid to research, separate tabulator listings can be supplied for areas, texts, frequency of publication, or retention in AMS Book and Periodical Library.

Unclassified
Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)

BOOZ ALLEN APPLIED RESEARCH, INC.
4733 Bethesda Avenue
Bethesda, Maryland 20014

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE

Mechanization Study of the Technical Library, U.S. Army Map Service, Washington, D. C. 20315

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
Final Report of on-site survey

5. AUTHOR(S) (Last name, first name, initial)
G. A. Kershaw, D. Crowder, J. E. Davis, E. G. Loges, E. Merendini, S. M. Thomas

6. REPORT DATE
September, 1966

7a. TOTAL NO. OF PAGES
66

7b. NO. OF REFS
0

8a. CONTRACT OR GRANT NO.
DSA-7-15409

b. PROJECT NO.

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)
914-1-26

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
AD 640 121

10. AVAILABILITY LIMITATION NOTICES
Distribution of this Document is unlimited

11. SUPPLEMENTARY NOTES
None

12. SPONSORING MILITARY ACTIVITY
Defense Supply Agency
Defense Documentation Center
Cameron Station, Virginia

13. ABSTRACT

The Army Map Service (AMS) Library uses a Univac 1004 computer to produce map accessions lists and bibliographies from punched cards containing printed text. Also data on a Map Reproduction (Repromat) File are punched onto cards and transferred to magnetic tape on a Honeywell H-800 computer. This tape is used to produce a high-speed printout of the Repromat Tabulation semiannually and a monthly listing to update the semiannual tabulation. It is felt that the mechanized Repromat File system should be modified in a number of ways for greater efficiency.

DD FORM 1473

Unclassified
Security Classification

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Information Retrieval Digital Computers						

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5. AUTHOR(S): Enter the name(s) of author(s) as shown on or in the report. Enter last name, first name, middle initial. If military, show rank and branch of service. The name of the principal author is an absolute minimum requirement.

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7a. TOTAL NUMBER OF PAGES: The total page count should follow normal pagination procedures, i.e., enter the number of pages containing information.

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8b, 8c, & 8d. PROJECT NUMBER: Enter the appropriate military department identification, such as project number, subproject number, system numbers, task number, etc.

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11. SUPPLEMENTARY NOTES: Use for additional explanatory notes.

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It is highly desirable that the abstract of classified reports be unclassified. Each paragraph of the abstract shall end with an indication of the military security classification of the information in the paragraph, represented as (TS), (S), (C), or (U).

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